

Nigel W.T. Quinn, PhD, P.E..

Staff Geological Scientist
Earth Sciences Division, 70A-3317H
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ACADEMIC DEGREES

BSc (Hons) Agricultural Engineering (summa cum laude)	Cranfield University, England	1977
MS Agricultural and Civil Engineering	Iowa State University, Ames, IA.	1981
PhD Water Resources Systems Engineering	Cornell University, Ithaca, NY.	1987

ACADEMIC

Staff Scientist II : Lawrence Berkeley National Laboratory	Oct 90 - present
Group Leader : HydroEcological Engineering Advanced Decision Support	Sept 02 – present
Adjunct Research Professor, Department of Plant Science, California State University, Fresno	May 05 – present
Associate Project Engineer, Department of Civil Engineering, University of California, Merced	Jun 05 – present
Visiting Research Professor, University of the Pacific, Dept. Civil Eng. and Comp. Sci, Stockton	Jul 05 - present
Research Engineer, University of California, Merced	Jul 05 - present
Research Engineer : University of California, Berkeley	Oct 99 – Sep 03
Research Associate IV : Cornell University	Jan 87 - Sep 90
Program on Science, Technology and Society	
General Electric Fellow : Cornell University	Jan 85 - Jan 87
Program on Science, Technology and Society.	
Research and Teaching Assistant : Cornell University	Jan 81 - Jan 85
Department of Agricultural Engineering.	
Lecturer : Iowa State University Faculty	Dec 77 - Jan 81
Department of Agricultural Engineering.	

INDUSTRY / GOVT.

Consultant Hydrologist : US Bureau of Reclamation, Division of Planning	Sep 90 - present
Consultant Hydrologist, MFG Inc. (TetraTech Inc.)	Sep 00 - Oct 04
Senior Water Resources Engineer:	Jan 87 - Sep 90
Interagency San Joaquin Valley Drainage Program	
Research Engineer, US Dept. of Agriculture, Agricultural Research Service	Jan 88 – Dec 89
Irrigation Engineer : Tate and Lyle Corporation	Jun 77 - Dec 77
Spalding, England.	

RECENT AND ONGOING RESEARCH

- Principal Investigator; (2006–2007) : Application of high resolution remote sensing to vegetation mapping in San Joaquin Basin grasslands . US Bureau of Reclamation - \$50,000
- Principal Investigator; (2005–2008) : Cooperative project with Grassland Water District and California Department of Fish and Game. Implementation of Real-Time Water Quality management in the Grassland Ecological Area. State Water Resources Control Board - \$960,000 (\$650,000 – LBNL).
- Co-Principal Investigator; (2005–2008) : Cooperative project with Patterson Irrigation District. Real-Time, Salt and Nutrient Drainage Load Reduction Strategies – Patterson & West Stanislaus Irrigation District. State Water Resources Control Board - \$997,000 (\$127,000 - UC Merced)
- Co-Principal Investigator; (2005–2008) : Cooperative project with Patterson Irrigation District. Decision support for implementation and evaluation of agricultural water reuse best management practices to improve district-level irrigation efficiency. CALFED Water Use Efficiency Program - \$500,000 (\$45,000 UC Merced)

- Principal Investigator; (2005–2007) : Use of geophysical techniques for reconnaissance assessment of groundwater pumping potential beneath San Joaquin and Tulare basin wetlands. US Bureau of Reclamation - \$120,000
- Co-Principal Investigator (with Tom Harmon, UC Merced); (2005-2006) ; Real-time sensor development for adaptive real-time management of wetland salinity. UC Salinity-Drainage Program. \$33,000.
- Co-principal Investigator : (2004-2007) : San Joaquin River Dissolved Oxygen TMDL. CALFED Directed Action. With : US Geological Survey, University of the Pacific, UC Davis, Systech Inc., Jones and Stokes Inc., West-side Drainage Authority - \$6,800,000 (\$640,000 – LBNL Quinn).
- Principal Investigator : (2004 – 2005) : Enhancement of return flow simulation from agriculture and seasonal wetlands using WESTSIM – (USBR - \$76,000)
- Principal Investigator : (2003 – 2005) : SJRRHRP Water Quality Monitoring and Decision Support System – (USBR - \$139,760)
- Principal Investigator : (2004 – 2005) : Geophysical logging techniques for groundwater resource quality mapping in the Grassland Ecological Area – (USBR Science and Technology Grant - \$30,000)
- Principal Investigator : (2004 – 2006) : Use of remote sensing for estimation of wetland evapotranspiration in the San Luis National Wildlife Refuge, California (USBR Science and Technology Grant - \$117,000)
- Co-Principal Investigator : (2003-2005) (with Norm Miller, Larry Dale and Chris Ding) : Laboratory Director's Research and Development Grant. The California Water and Energy System: An Approach for Addressing Future Crises. (LBNL - \$450,000)
- Principal Investigator : (2003 – 2004) : Calibration and application of WESTSIM, using updated IGSM2 model code, to drainage problem areas and seasonal wetlands – (USBR - \$69,000)
- Principal Investigator : (1999 – 2004) : Adaptive Real-Time Management of Wetland Return Flows in the Grasslands Basin, California (CALFED grant - \$635,000)
- Principal Investigator : (2003-2005) Adaptive Real-Time Management of Wetland Salinity from the San Luis National Wildlife Refuge. CALFED grant - \$360,000. Co-PI : Dennis Woolington, US Fish and Wildlife Service.
- Co-Principal Investigator : (2001 – 2003) : Discriminating Between West-Side Sources of Nutrients and Organic Carbon Contributing to Algae Growth and Oxygen Demand in the San Joaquin River (CALFED grant with Will Stringfellow - \$179,000)
- Co-Principal Investigator : (2001 – 2004) : Panoche-Silver Creek Selenium Management Planning (CALFED grant with Panoche Silver Creek CRMP- \$890,000)
- Co- Investigator : (1999 – 2003) : An integrated modeling system for environmental impact analysis of climate variability and extreme weather events in the San Joaquin Basin, California (EPA Grant with Professor John Dracup, UCB - \$900,000).
- Principal Investigator : (1990 – 1998) : Application of Advanced Decision Support Systems to Water Resources Planning (USBR grant - \$1,100,000)
- Research Coordinator : (1996 - 2001) : Algal-bacterial selenium removal system in the Panoche Water District (USBR and CALFED grants with Professors Oswald and Leighton - \$1,300,000)
- Principal Investigator : (1997 - 2002) : Development of the Westside Integrated Groundwater-Surface Water Model (WESTSIM) (USBR grant - \$190,000)

- Principal Investigator : (1993 - 1995) In-transit selenium losses in the Grasslands Basin (USBR grant - \$120,000)
- Principal Investigator : (1994 - 1995) : Modeling selenium in-transit losses. (SWRCB Grant with Professor H.W. Shen - \$60,000)
- Co-Principal Investigator : (1996- 2002) : Real-Time water Quality Management in the San Joaquin River. (CALFED grant and USBR challenge grant with Department of Water Resources and California Regional water Quality Control Board - \$1,200,000).

RESEARCH INTERESTS

Application of systems analysis techniques to solving complex water resources problems. Analysis of environmental, social and economic impacts of global climate change in the San Joaquin Valley. Development of decision support systems and simulation models to improve understanding and facilitate negotiation of solutions to future water resource and water quality problems. Primary research focus during past decade has been on developing decision making tools for assessing the impacts of drainage water quality projects on the west side of the San Joaquin Valley with an emphasis on salinity and selenium drainage. Field research has included investigations of natural selenium in-transit losses in a wetland channel used for drainage discharges and surface water deliveries, cooperative work with private and public wetlands in the Grasslands Basin to develop monitoring and management responses to a salinity TMDL and participation in microbial mesocosm studies to identify bacterial species capable of selenium bioremediation. Results of these natural system bioremediation experiments are being used to help optimize the performance of an algal-bacterial selenium bioremediation plant for treating agricultural drain water in the Panoche Water District in the western San Joaquin Valley.

PROFESSIONAL MEMBERSHIPS

California Water and Environmental Modeling Forum (Convener, 2002, 2003, 2004, past Convener, 2005)
 San Joaquin Dissolved Oxygen Technical Advisory Committee
 Integrated Groundwater-Surface Water Model User Group (Chair)
 CALFED Water Quality Technical Group
 San Joaquin River Management Program (Steering Committee and Water Quality Subcommittee)
 San Joaquin Valley Drainage Implementation Program Committees : Groundwater and River Discharge
 American Society of Civil Engineers
 American Water Resources Association
 American Geophysical Union
 Water Environment Federation
 California Irrigation Institute
 US Committee of Irrigation and Drainage
 International Water Association
 International Symposium for Environmental Software Systems (Board of Directors)

LICENCES

Registered Professional Engineer

HONORS

Diplomate American Academy for Water Resources Engineers D.WRE
 Who's Who in America (since 2001)
 Who's Who in the World (since 2003)
 Strathmore's Who's Who in America (since 2002)
 Who's Who in California (since 1988)
 Men of Achievement (since 1989)
 Gamma Sigma Delta, Alpha Epsilon, Honor Societies

SOCIAL/CIVIC

Yolo Polo Club
 Sutter Buttes Polo Club
 Berkeley Yacht Club

Woodlake Improvement Club
Manorial Society of Great Britain

PEER REVIEWED JOURNAL ARTICLES : 1975-2007

1. Stringfellow W.T., J.S. Hanlon, S. E. Borglin, and N.W.T. Quinn. 2007. Sources of Biochemical Oxygen Demand in Western Tributaries of the San Joaquin River, California. Submitted to Journal of Agricultural Water Management, Sept 2007
2. Rizzoli A.E., G. Leavesley, J. Ascough, I.N. Athanasiadis, R. Argent, V. Brilhante, F.H.A. Claeys, O. David, M. Donatelli, P. Gijsbers, D. Havlik, A. Kassahun, P. Krause, N.W.T. Quinn, H. Scholten, R.S Sodja, F. Villa. 2007. Integrated Modelling Frameworks for Environmental Assessment and Decision Support. In Press : Environmental Modelling and Software. Elsevier Science Ltd.
3. Loucks, D.P. H. Assaf, E. van Beek and P. Gijsbers, A. Jolma , S. Kaden and M. Kaltofen, J.W. Labadie , N.W.T. Quinn, J. Sieber, A. Sulis, W.J. Werick, D.M. Wood and C. Borde. 2007. Generic Simulation Models for Facilitating Stakeholder Involvement in Water Resources Planning and Management: A Comparison, Evaluation, and Identification of Future Needs. In Press : Environmental Modelling and Software. Elsevier Science Ltd.
4. Myśiak J., J. D. Brown, J.M. Jansen and N.W.T. Quinn. 2007. Environmental Policy Aid Under Uncertainty. In Press : Environmental Modelling and Software. Elsevier Science Ltd.
5. McIntosh B.S, C. Giupponi, A. Voinov, C. Smith, K.B. Matthews, M. Monticino, M.J. Kolkman, N. Crossman, M. van Ittersum, D. Haase, A. Haase, J. Mysiak, J.C.J. Groot, S. Sieber, P. Verweij, N.W.T. Quinn, P. Waeger, N. Gaber, D. Hepting, H. Scholten, A. Sulis, H. van Delden, E. Gaddis, H. Assaf. 2007. Bridging the gaps between design and use: developing tools to support environmental management and policy. In Press : Environmental Modelling and Software. Elsevier Science Ltd.
6. Su, G.W., N.W.T. Quinn, P.J. Cook, and W. Shipp. 2006. Miniaturization of the flowing fluid electrical conductivity logging technique, Ground Water, Vol. 44, No.5 pp. 754-757, Sept-Oct, 2006. LBNL-59032.
7. Quinn N.W.T. and K.C. Jacobs 2006. An Emergency Environmental Response System to Protect Migrating Salmon in the Lower San Joaquin River.. Environmental Modelling and Software. Vol. 22, pp 416-422. Elsevier Science Ltd. Online. doi:10.1016/j.physletb.2003.10.071. April 17, 2006. LBNL-60622.
8. Quinn N.W.T., K.C. Jacobs, C.W. Chen and W.T Stringfellow. 2005. Elements of a Decision Support System for Real-Time Management of Dissolved Oxygen in the San Joaquin River Deep Water Ship Channel. Environmental Modelling and Software. Elsevier Science Ltd. June 2005. LBNL Report-55929.
9. Brekke, L.D., N.L. Miller, N.W.T. Quinn, J.A. Dracup, and D. Hilts. 2004. Climate Change Impacts on San Joaquin River Basin water allocation. Paper No. 02103RR. Journal of American Water Resources Association, Vol 40, No. 1, pp. 149-164.
10. Quinn N.W.T., L.D. Brekke, N.L. Miller, T. Heinzer, H. Hidalgo and J.A. Dracup. 2004. Model Integration For Assessing Future Hydroclimate Impacts On Water Resources, Agricultural Production And Environmental Quality in the San Joaquin Basin, California. Environmental Modelling and Software. Elsevier Science Ltd. Vol. 19, pp 305-316. (LBNL-51708)
11. Quinn N.W.T. and W.M. Hanna. 2003. A Decision Support System for Adaptive Real-Time Management of Seasonal Wetlands in California. 2003. Environmental Modelling and Software. Vol. 18, Issue 6, pp 503-511. Elsevier Science Ltd. (LBNL-50238)
12. Green, F.B., Lundquist, T.J., Quinn, M.W.T., Zarate, M.A., Zubieta, I.X. and W.J. Oswald. 2003. Selenium and nitrate removal from agricultural drainage using the AIWPS® technology. Water Science & Technology, 48 (2): 299-305, 2003.

13. Quinn N.W.T. and W. Mark Hanna. 2002. Real-Time Adaptive Management of Seasonal Wetlands to Improve Water Quality in the San Joaquin River. *Advances in Environmental Research*. Vol. 5, pp 309-317. Elsevier Science Ltd.
14. Quinn N.W.T, N.L. Miller, J.A. Dracup, L. Brekke and L.F. Grober. 2001. An Integrated Modeling System for Environmental Impact Analysis of Climate Variability and Extreme Weather Events in the San Joaquin Basin, California. *Advances in Environmental Research*. Elsevier Science Ltd. Vol 5 (2001) 309-317.
15. Quinn, N.W.T., T.J. Lundquist, F.B. Green, W.J. Oswald, T Leighton and M.A. Zarate. 2000. An algal-bacterial treatment system to reduce selenium loads in agricultural drainage. *California Agriculture*. November-December, Vol 54 No. 6.
16. Quinn N.W.T. and J. Karkoski. 1998. Potential for real time management of water quality in the San Joaquin Basin, California. *Journal of the American Water Resources Association*, Vol. 36, No. 6, December.
17. Quinn N.W.T. and P. Vorster. 1998. The comparative role of science in in resolving environmental problems at Kesterson Reservoir and Mono Lake, California. *Lakes and Reservoirs : Research and Management*, Vol. 3, 187-191.
18. Quinn, N.W.T., J. McGahan and M. Delamore. 1998. Innovative drainage management techniques to meet monthly and annual selenium load targets. *California Agriculture*, Vol. 52, No. 5, September-October. 1998.
19. Quinn N.W.T. and J. Clyde. 1998. A bed sediment sampler for precise depth profiling of contaminant concentrations in aquatic environments. *Journal of Environmental Quality*, Vol.27: pp. 64-67
20. Quinn, N.W.T., L.F. Grober, J. Kipps, C.W. Chen and E. Cummings. 1997. Computer model improves real-time management of water quality. *California Agriculture*, Vol. 51, No. 5, September-October. 1997
21. Quinn N.W.T, Richard B. Smith, Charles M. Burt, Tracy Slavin, and Stuart Styles. 1989. Evaluation of unlined ditch and reservoir seepage losses in Westlands Water District. *California Agriculture*, Nov-Dec.
22. Quinn N.W.T and J.M. Laflen. 1983. Characteristics of raindrop throughfall under corn canopy. *Transactions of the ASAE*. Vol 26, no 5, pp 1445-1450.
23. Quinn N.W.T. and J.M. Laflen. 1981. Properties of transformed rainfall under corn canopy. *American Society of Agricultural Engineering* , ASAE. paper no 81-2059..
24. Quinn N.W.T, R.P.C. Morgan and A.J. Smith. 1980. Simulation of soil erosion induced by human trampling. *Journal of Environmental Management*, Vol 10, no. 1, pp 155-165.
25. Elwell H.A. and N.W.T. Quinn. 1975. A rapid method for estimating the dry mass of soil from erosion research plots. *Rhodesian Journal of Agricultural Research*, Vol 13, pp 149-154.

BOOK CHAPTERS AND EDITED VOLUMES

1. Hidalgo H., L.D. Brekke, N.L. Miller, N.W.T. Quinn, J. Keyantash and J.A. Dracup. 2006. Assessment of the Impacts of Climate Change on the Water Allocation, Water Quality and Salmon Production in the San Joaquin River Basin: in M. Ruth, K. Donaghy and P. Kirshen (eds), *Regional Climate Change and Variability: Impacts and Responses*, Cheltenham, UK and Northampton, MA: Edward Elgar. pp. 30-57.
2. Quinn, N.W.T, Carl W. Chen and W.T. Stringfellow. 2003. A Decision Support System for Real-Time Management of Dissolved Oxygen in the Stockton Deep Water Ship Channel. *Environmental Software Systems*. *Environmental Knowledge and Information Systems IFIP TC5 WG5.11, 9th International Symposium on Environmental Software Systems (ISESS'2003)*, May 28-June 2, 2003 , Semmering, Austria. Edited by Gerald P. Schimak, Nigel W. T.Quinn, Ralf Denzer and David A. Swayne. Publisher: Copyright: 2003 by International Federation for Information Processing. LBNL No. 53394.

3. Environmental Software Systems. 2003. Environmental Knowledge and Information Systems IFIP TC5 WG5.11, 9th International Symposium on Environmental Software Systems (ISESS'2003), May 28-June 2, 2003 Edited by Gerald P. Schimak, Nigel W. T Quinn, Ralf Denzer and David A. Swayne. Copyright: 2003 by International Federation for Information Processing.
4. Quinn N.W.T. L.D. Brekke, K.L. Bashford, N.L. Miller, H. Hidalgo, P. Raju and J.A. Dracup 2002. Model Integration For Assessing Future Hydroclimate Impacts On Water Resources, Agricultural Economic Sustainability And Environmental Quality. Environmental Software Systems. Environmental Information and Decision Support. IFIP TC5 WG5.11. Joint 3rd International Symposium on Environmental Software Systems (ISESS'2002) and International Environmental Modelling and Software Society, iEMSs June 24 -June 28, 2002, Lugano, Switzerland
5. Quinn N.W.T. N.L. Miller, J.A. Dracup, L. Brekke and L. Grober 2000. An integrated modeling system for environmental impact analysis of climate variability and extreme weather events in California. Environmental Software Systems. Environmental Information and Decision Support. IFIP TC5 WG5.11, 3rd International Symposium on Environmental Software Systems (ISESS'2000), May 28-June 2, 2000, Zell am See, Austria. Edited by: Ralf Denzer, David A. Swayne, Martin Purvis and Gerald Schimak. Publisher: Kluwer Academic Publishers, Massachusetts. Copyright: 2000 by International Federation for Information Processing.
6. Quinn N.W.T. 1999. Real time management of water quality in the San Joaquin Basin, California. Environmental Software Systems. Environmental Information and Decision Support. IFIP TC5 WG5.11, 3rd International Symposium on Environmental Software Systems (ISESS'99), August 30-September 2, 1999, Dunedin, New Zealand. Edited by: Ralf Denzer, David A. Swayne, Martin Purvis and Gerald Schimak. Publisher: Kluwer Academic Publishers, Massachusetts. Copyright: 2000 by International Federation for Information Processing.
7. Quinn N.W.T. 1991. Assessment of ground water pumping as an option for water table management and drainage control in the western San Joaquin Valley. In "The Economics of Water and Drainage in Agriculture". Editors : A. Dinar and D. Zilberman, Kluwer Academic Publishers.
8. Quinn N.W.T. 1988. A screening study of management alternatives for selenium drainage reduction in the San Joaquin Valley of California. In: "Selenium in Agriculture and the Environment". American Society of Agronomy, Madison, Wisconsin.

CONFERENCE PROCEEDINGS, LBNL REPORTS, ABSTRACTS AND POSTERS

1. Quinn, N.W.T. 2007. Hydrogeologic Assessment of the Pixley National Wildlife Refuge. LBNL- 6xxxx. October 1, 2007.
2. Quinn, N.W.T. 2007, K.N. Poole and T.J Lundquist. Impacts of Delayed Drawdown on Aquatic Biota and Water Quality in Seasonal Wetlands. Annual Report to the Water Resources Center, University of California, Riverside, Salinity Drainage Program.
3. Quinn N.W.T..2007. An environmental monitoring data management system for providing stakeholder assurances toward meeting contaminant mass loading policy objectives. Proceedings of the International Symposium of Environmental Software Systems, Prague, Czechoslovakia. May 22-25, 2007.
<http://www.isess.org/papers.asp?year=2007>
4. Brunell, M., G. M. Litton, and N. W. T. Quinn. 2007. Zooplankton abundance and diversity in the lower San Joaquin River above the Stockton Deep Water Ship Channel (San Joaquin Co., California, U.S.A.). To be presented 9 Aug 2007 at the Ecological Society of America/Society for Ecological Restoration International Joint Meeting in San Jose, CA. Abstract accepted.

5. Quinn, N.W.T, J.C. Linneman and K.K. Tanji. 2006. The San Joaquin Valley Westside Perspective. World Environmental and Water Resources Congress 2006. ASCE EWRI.
<http://gear.asce.org/paper/converted/40856/40856-14247.pdf>. LBN -60613. May 22, 2006.
6. Quinn, N.W.T and T.J. Lundquist. 2006. Managing Water Quality in the San Joaquin River Basin. Science and Stewardship. Proceedings, State of the San Francisco Bay-Delta Estuary 2006. San Francisco Estuary Project and CALFED.
7. Quinn N.W.T 2006. Bottom-up, decision support system development : a wetland salinity management application in California's San Joaquin Valley. Summit on Environmental Modeling and Software 3rd Biennial meeting of the International Environmental Modelling and Software Society, Burlington, Vermont, USA July 9-12, 2006. LBNL-60231
8. Quinn, N.W.T. 2006. Hydrogeologic Assessment of the 4-S Land and Cattle Company Ranch. LBNL- 60011. April 10, 2006.
9. Quinn, N.W.T. 2006. Qualitative Analysis/Discussion of Increased Contractual Deliveries - San Luis Unit LBNL-60612. March 27, 2006.
10. Quinn, N.W.T, J.C. Linneman and K.K. Tanji. 2006. The San Joaquin Valley Westside Perspective. World Environmental and Water Resources Congress 2006. ASCE EWRI.
<http://gear.asce.org/paper/converted/40856/40856-14247.pdf>. LBNL-60613. May 22, 2006.
11. Quinn N.W.T. 2005. Position Paper and Abstract. Successes and Failures of Decision Support Systems. International Workshop on Success and Failure of Decision Support Systems for Integrated Water Resource Management. Palazzo Zorzi, Venice, Italy. Oct. 6-7, 2005.
12. Su, G., N.W.T. Quinn, P.J. Cook and W. Ship. 2005. Minaturization of the flowing fluid electric conductivity logging technique. LBNL-59032. October 19, 2005.
13. Quinn, N.W.T and H.V. Graham. Evaluating the Effects of Tailwater Irrigation on Soil Salinity and Discharge Water Quality. Combating Global Soil & Land Degradation IV. Salinization, Sodification and Other Forms of Degradation in Agricultural and Native Ecosystems – Poster. World Congress on Soil Science, Philadelphia, July 10-14, 2006.
14. Lundquist T.J., N.W.T. Quinn, S.E. Borglin, A. Sudame and W.J. Oswald. 2006. Biological treatment of irrigation drainage for selenium removal. Poster Session, Ecology Department External Peer Review. Berkeley National Laboratory. May 11, 2006.
15. Quinn N.W.T. and J.R. Burns. 2006. New tools for ecological impact assessment in managed seasonal wetlands. Poster Session, Ecology Department External Peer Review. Berkeley National Laboratory. May 11, 2006.
16. Quinn N.W.T 2006. Bottom-up, decision support system development : a wetland salinity management application in California's San Joaquin Valley. Summit on Environmental Modeling and Software 3rd Biennial meeting of the International Environmental Modelling and Software Society, Burlington, Vermont, USA July 9-12, 2006.
17. Quinn N.W.T..2006. Innovations and Lessons Learned : Abstract. Real-Time Water Quality Monitoring and Management in Seasonal Wetlands, California Water and Environmental Modeling Forum, Annual Meeting, Pacific Grove. March 1-3, 2005.
18. Quinn N.W.T. 2005. Position Paper and Abstract. International Workshop on Success and Failure of Decision Support Systems for Integrated Water Resource Management. Palazzo Zorzi, Venice, Italy. Oct. 6-7, 2005.
19. Quinn, N.W.T., J.S. Hanlon, J.R. Burns, K.A.K. Stromeier, B.M. Jordan, M.J. Ennis and D.W. Woolington. 2005. Real-Time Water Quality Monitoring and Habitat Assessment in the San Luis National Wildlife Refuge LBNL-58813. August 28, 2005, Berkeley, CA 94720

20. Quinn N.W.T. and T.J. Lundquist. 2005. Abstract. Adaptive Real-Time Management of Water Quality in the San Joaquin River Basin. 7th Biennial State of the San Francisco Estuary Conference. Celebrating Science and Stewardship. Henry J. Kaiser Convention Center, 10 10th Street, Oakland, CA 94607, October 4-6, 2005.
21. Quinn N.W.T. 2005. Abstract. Innovations in GIS-Based Modeling of Groundwater Conjunctive Use and Salinity Management on the West Side of the San Joaquin Basin. 25th Biennial Groundwater Conference and 14th Annual Meeting of the Groundwater Resources Association of California. October 25-26, Sacramento Convention Center, Sacramento, CA
22. Lundquist T.J., N. Abe, J. Davis, F.B. Green, N.W.T. Quinn, G. Sharma, I. Tadesse, and W.J. Oswald. 2005. Effect of Salinity on Agricultural Drainage Biotreatment for Selenium and Nitrate Removal. LBNL-58319. June, 2005, Berkeley, CA 94720
23. Lundquist T.J., J. Davis, F.B. Green, N.W.T. Quinn, G. Sharma, I. Tadesse, and W.J. Oswald. Evaluating the Potential of Drainage Biotreatment through Selenium Speciation and Kinetic Modeling Final Report. LBNL-58167. June 2005, Berkeley, CA 94720
24. Quinn, N.W.T. W.M. Hanna, J.S. Hanlon, J.R. Burns, C.M. Taylor, D. Marciochi, S. Lower, V. Woodruff, D. Wright and T. Poole. 2004. Real-Time Water Quality Management in the Grassland Water District. LBNL-56825. November 15, 2004, Berkeley, CA 94720
25. Quinn, N.W.T and S.A. Feldmann. 2004. Wetland plant guide for assessing habitat impacts of real-time salinity management. LBNL-56668.
26. Quinn, N.W.T. 2004. Concept paper for real-time temperature and water quality management for San Joaquin River riparian habitat restoration. LBNL-56815.
27. Quinn, N.W.T and K.C. Jacobs. 2004. An emergency environmental response system to protect migrating salmon in the lower San Joaquin River. Spring ISESS Conference, May 18-21, 2004, James Madison University, Harrisonburg, Virginia.
28. Quinn, N.W.T, C.W. Chen and W.T. Stringfellow. 2003. A Decision Support System for Real-Time Management of Dissolved Oxygen in the Stockton Deep Water Ship Channel. 9th International Symposium on Environmental Software Systems (ISESS'2003), May 28-June 2. Semmering, Austria.
29. Lundquist, T.J., F.B. Green, N.W.T. Quinn, S.E. Borglin, C. Hsieh, R.Y. Huang, and W.J. Oswald, 2003. The Physical-Chemical Aspects of Biological Drainage Treatment, U.C. Salinity Drainage Meeting Proceedings, March 27, Sacramento.
30. Stringfellow W.T. and N.W.T Quinn. 2003. Source of biochemical oxygen demand in west-side tributaries of the San Joaquin River, California. LBNL-53373.
31. Hanlon J.A., W.T. Stringfellow and N.W.T. Quinn. 2003. Contributing factors in oxygen demand and algal growth in the San Joaquin River from west-side nutrient and organic carbon sources. Poster session – annual review. Lawrence Berkeley National Laboratory.
32. Green F.B., S.E. Borglin, C.H. Hsieh, R.Y.C. Huang, N.W.T. Quinn, A. Sudame, M.G. Takata and W.J. Oswald. 2003. Algal-bacterial selenium removal and biological treatment of irrigation drainage. ESD Science review, Poster Session. Mar 3-4.
33. Quinn N.W.T. and D. Follette. 2003. Demonstration of real-time water quality management for seasonal wetland drainage. ESD Science review, Poster Session. Mar 3-4.
34. Quinn, N.W.T and Alice A. Tulloch. 2002 San Joaquin River diversion data assimilation, drainage estimation and installation of monitoring stations. LBNL-56940.

35. Lundquist, T.J., F.B. Green, N.W.T. Quinn, S.E. Borglin, C. Hsieh, and W.J. Oswald, 2002. Development of Drainage Treatment for the San Joaquin River Water Quality Improvement Project, DWR Project Update Meeting, March 27, 2002, Sacramento.
36. Green, F.B., T.J. Lundquist, N.W.T. Quinn, M.A. Zárate, I.X. Zubieta, and W.J. Oswald. 2002. "Selenium and nitrate removal from agricultural drainage using the AIWPS Technology," Fifth International Water Association Specialist Conference on Waste Stabilization Ponds, Pond Technology for the New Millennium, April 2-5, 2002, Auckland, New Zealand (in press Water Science and Technology
37. Quinn N.W.T and W. Mark Hanna. 2002. Real-time management of seasonal wetland drainage to satisfy salinity TMDL objectives in California's Grasslands Basin. Proceedings of the US Committee on Irrigation and Drainage Water Management Conference on Helping Irrigated Agriculture Adjust to TMDL's, Sacramento, CA. October 23-26.
38. Quinn N.W.T. L.D. Brekke, N.L. Miller, T. Heinzer and J.A. Dracup. 2002. Model Integration for Assessing Future Hydroclimate Impacts on Water Resources, Agricultural Production and Environmental Quality in the San Joaquin Basin, California. LBNL-51708.
39. Quinn, N.W.T. and M.C.S. Eacock. 2002. Real-Time Water Quality Modeling and Management in the San Joaquin River. LBNL-51167.
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41. Quinn N.W.T and M.C.S. Eacock. 2002. Real-Time Water Quality Modeling And Management In The San Joaquin River. Proceedings of the US Committee on Irrigation and Drainage Conference on Energy, Climate, Environment and Water – Issues and Opportunities for Irrigation and Drainage, San Luis Obispo, CA. July 9-12.
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INVITED AND CONFERENCE PRESENTATIONS

1. Quinn N.W.T., R. Ortega and L. Sparks. 2007. Sustainable adaptive management of brackish seasonal wetland habitat to meet salinity objectives in the San Joaquin River, California. Society of Wetland Scientists Annual Conference. June 10-15, 2007
2. Quinn N.W.T..2007. An environmental monitoring data management system for providing stakeholder assurances toward meeting contaminant mass loading policy objectives. International Symposium of Environmental Software Systems, Prague, Czechoslovakia. May 22-25, 2007.
3. Quinn N.W.T..2006. Guns, Ducks and Salinity : Adaptive Water Quality Management in the Grasslands Basin Wetlands. Hydrology Seminar, University of California, Davis. June 1, 2006.
4. Quinn N.W.T..and K. Hucklebridge. 2006. Extended San Joaquin River Model : Presentation to the Stockton Dissolved Oxygen TMDL Technical Work Group. May 16, 2006.
5. Quinn N.W.T..2006. Guns, Ducks and Salinity : Adaptive Water Quality Management in the Grasslands Basin Wetlands. Annual Salinity Drainage Conference, Sacramento, CA. March 29, 2006.

6. Quinn N.W.T..2006. Water Quality Monitoring and Drainage Management in the San Joaquin Valley, California. Presentation to State Department, Department of Water Resources and Delegation from Iraq, Los Banos, CA. March 16, 2006.
7. Quinn N.W.T..2006. San Joaquin River Water Quality Monitoring and Management. Presentation to Delegation from China, Berkeley, CA. March 8, 2006..
8. Quinn N.W.T..2006. Innovations and Lessons Learned : Real-Time Water Quality Monitoring and Management in Seasonal Wetlands, California Water and Environmental Modeling Forum, Annual Meeting, Pacific Grove. March 1-3, 2006.
9. Quinn N.W.T..2005. Innovations in GIS-Based Modeling of Groundwater Conjunctive Use and Salinity Management on the West Side of the San Joaquin Basin. 25th Biennial Groundwater Conference and 14th Annual Meeting of the Groundwater Resources Association of California. Sacramento Convention Center, Sacramento, CA. October 25-26, 2005.
10. Quinn N.W.T. and T.J. Lundquist. 2005. Adaptive Real-Time Management of Water Quality in the San Joaquin River Basin. 7th Biennial State of the San Francisco Estuary Conference. Celebrating Science and Stewardship. Henry J. Kaiser Convention Center, 10 10th Street, Oakland, CA 94607, October 4-6, 2005.
11. Quinn N.W.T..2005. Information Technology And Decision Support For Real-Time Wetland Salinity Drainage Management. International Symposium on Environmental Software Systems, 2005. Sesimbra, Portugal, May 23, 2005.
12. Quinn N.W.T..2005. Advancing the Concept of Real-Time Water Quality Management in the San Joaquin Basin University of California, Merced, CA. April 6, 2005.
13. Quinn N.W.T..2005. Real-Time Drainage Water Quality Management in the San Joaquin Basin. San Joaquin River Management Executive Council, Modesto, CA. March 10, 2005.
14. Quinn N.W.T..2005. Concept of Real-Time Water Quality Management In The San Joaquin Basin. US Bureau of Reclamation Seminar, Sacramento, CA 95825. February 2, 2005.
15. Quinn N.W.T..2005. Advancing the Concept of Real-Time Water Quality Management in the San Joaquin Basin California Water and Environmental Modeling Forum, Annual Meeting, Pacific Grove. March 1-3, 2005.
16. Quinn N.W.T. 2004. Overview of the San Joaquin River Basin (SJR) System And Existing/Imminent Monitoring Network. Invited presentation. CLEANER Meeting at UCLA, UCLA, Los Angeles, CA. June 30, 2004
17. Quinn N.W.T. 2004. Wetland Real-Time Water Quality Management. San Luis and Delta Mendota Water Authority, Los Banos, CA. March 10, 2004
18. Quinn N.W.T..2004. Accomplishments of the CWEMF 2002. California Water and Environmental Modeling Forum, Annual Meeting, Pacific Grove. February 24-26 .
19. Quinn N.W.T..2004. Advances in Decision Support Systems. California Water and Environmental Modeling Forum, Annual Meeting, Pacific Grove. February 25.
20. Quinn N.W.T. 2004. Innovations in Water Reuse and Real Time Water Quality Management in the San Joaquin Valley. Invited paper, American Association for the Advancement of Science, Seattle, WA. February 16, 2004.
21. Quinn N.W.T. 2004. Real-time water quality management and related projects in the San Joaquin. Invited cooperation meeting. Livermore National Laboratory, February 2, 2004.

22. Quinn N.W.T. 2003. Climate Change Impacts Uncertainty for Water Resources in the San Joaquin River Basin. Technical Workshop on Climate Change and its Impacts on Water Supply and Water Quality in California, Concord, CA. November 21, 2003.
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24. Lundquist, T.J., F.B. Green, N.W.T. Quinn, S.E. Borglin, C. Hsieh, and W.J. Oswald. 2002. Development of Drainage Treatment for the San Joaquin River Water Quality Improvement Project, DWR Project Update Meeting, Sacramento. March 27
25. Quinn N.W.T. 2001. SJR Real Time Water Quality Program. Invited seminar, Real Time Data & Forecasting Steering Committee, CALFED, Sacramento, CA. April 10.
26. Quinn N.W.T..2003. Accomplishments of the CWEMF 2002. California Water and Environmental Modeling Forum, Annual Meeting, Pacific Grove. February 26.
27. Hanna W.M. and N.W.T. Quinn. 2003. Real-time wetland salinity management in the San Joaquin Valley. CALFED Science Conference 2003, Sacramento, CA. January 14-16.
28. Quinn N.W.T. 2001. A GIS-based Impacts Assessment Toolbox for Contingency Planning Under Global Climate Change in the San Joaquin Basin. Bay-Delta Modeling Forum Conference of Climate Change, Sacramento, CA. Oct 5.
29. Quinn N.W.T. 2001. An Impacts Assessment Toolbox to Aid Water Resources Contingency Planning Under Global Climate Change in the San Joaquin Basin. Invited Presentation made to the State Bulletin 160 Study Team and the CALFED Bay-Delta Program. Sacramento, CA. Aug 21.
30. Quinn N.W.T, L. Brekke and P. Ramaraju. 2001. An Impacts Assessment Toolbox to Aid Water Resources Contingency Planning Under Global Climate Change. American Water Resources Association Conference. Dundee, Scotland, August 5-9.
31. Quinn N.W.T. and W. Mark Hanna. 2001. Real-Time Adaptive Management of Seasonal Wetlands to Improve Water Quality in the San Joaquin River. ISESS Conference, Banff, Canada. May 22-24.
32. Quinn N.W.T. 2001. GIS-based interface tools for the Integrated Ground And Surface Water Model (IGSM). Biannual US Bureau of Reclamation Groundwater Conference, Port Angeles, WA. May 1-2.
11. Quinn N.W.T. 2001. San Joaquin Basin modeling - process and progress. Bay-Delta-Modeling Forum Annual Meeting, Asilomar, CA, Feb 27 - Mar 2..
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34. Quinn, N.W.T. 2000. An integrated modeling system for environmental impact analysis of climate variability and extreme weather events in California. Workshop on Integrated Decision Support Systems, Kitchener, Canada. Sept 24 - Sept 27.
35. Zarate M, T. Lundquist, B. Green, N.W.T. Quinn, W. Oswald and T. Leighton. 2000. Results from an algal bacterial treatment system. American Chemical Society Annual Meeting, Mar 27-29..
36. Quinn N.W.T. 2000. Evaluating environmental impacts of future climate change in the San Joaquin Basin, Bay-Delta-Modeling Forum Annual Meeting, Asilomar, CA, Feb 29 - Mar 3..
37. Quinn N.W.T. 2000. Integration of water quality modeling activities in the San Joaquin River. San Joaquin Basin Modeling Retreat, Big Creek, California. January 24-25..

38. Quinn N.W.T. 2000. Progress on Real time management of water quality in the San Joaquin River. Workshop on water quality modeling and monitoring in the San Joaquin River, Turlock Irrigation District, January 24.
39. Quinn N.W.T. 1999. Real time management of water quality in the San Joaquin Basin, California. International Society for Environmental Software Systems Conference, Dunedin, New Zealand, Aug 28.
40. Quinn N.W.T. 1999. Integrated algal pond system for remediating drainage water. Petroleum Environmental Research Forum, Annual Meeting, Berkeley, CA. Mar 9 – 11..
41. Quinn N.W.T. 1999. Climate change and water resources impacts in the San Joaquin Basin. Climate Modeling Workshop, LBNL, October 4..
42. Quinn N.W.T. 1999. Presentation to US State Dept. / Egyptian delegation on Water Resources. US Bureau of Reclamation, March 18..
43. Quinn N.W.T. 1999. Design and Use of Graphic Interfaces ; Annual Meeting of Bay Delta Modeling Forum, Asilomar, CA. Feb 23.
44. Quinn N.W.T. 1998. The comparative role of science in resolving environmental problems at Kesterson Reservoir and Mono Lake, California. International Lake Environment Committee Symposium, San Martin, Argentina.
45. Quinn, N.W.T. 1998. Innovative drainage management techniques to meet monthly and annual selenium load targets. U.C. Berkeley, Dept. Of Cell Biology.
46. Quinn, N.W.T. 1998. Real-time water quality management in the San Joaquin River, California. American Society of Agricultural Engineers, Drainage Symposium, Orlando, Florida. Mar 9-12..
47. Quinn, N.W.T. 1997. The Grasslands Bypass Project and real-time water quality management in the San Joaquin Basin. Biennial National Groundwater Conference, U.S. Bureau of Reclamation, Mar 20-21.
48. Quinn, N.W.T. 1997. Implementation of a system for real-time water quality management in the San Joaquin River. Annual Conference of the U.C. Salinity Drainage Task Force, Sacramento, CA. Mar 26-27.
49. Quinn, N.W.T. 1997. A decision support system for real-time water quality management in the San Joaquin River. Interagency Environmental Program and Bay Delta Modeling Forum Annual Conference, Asilomar, CA. February 25-28.
50. Quinn N.W.T. 1996. Real-time management of drainage and water quality in the San Joaquin River. National Irrigation Water Quality program. Phase IV Bi-Annual Meeting, San Diego, CA. September 10-12.
51. Quinn N.W.T. 1996. Sleuthing selenium in-transit losses in drainage channels in the Grasslands Basin, California. Center for Environmental Biotechnology Seminar. Berkeley, CA. Sept 5.
52. Quinn N.W.T. 1996. Real-time management of water quality in the San Joaquin River, California. Bay Delta Modeling Forum Workshop on Real-Time Water Management in the Bay-Delta. Sacramento, CA. Aug 29.
53. Quinn N.W.T. 1996. Near real-time salinity management in the San Joaquin River, California. Conference on Sustainable Water Resources for the 21st Century. Oak Ridge National Laboratory, Chattanooga, TN. May 21 - 23.
54. Quinn N.W.T. 1995. Overview of water quality problems in the Bay-Delta. Workshop on toxics and water quality modeling in the Bay-Delta. Bay Delta Modeling Forum, Lawrence Berkeley National Laboratory, Berkeley. August 25.
55. Quinn N.W.T. 1995. Sleuthing selenium in-transit losses in channels used for conveyance of agricultural drainage, Grasslands Basin, California. Invited presentation. American Society for Industrial Microbiology. Annual Meeting. San Jose. August 7-11.

56. Karkoski J., N.W.T. Quinn, L.F.Grober, J.E. Chilcott, A. Vargas. 1995. Selenium transport in the Grasslands watershed. Poster session. Selenium in the Environment: Essential Nutrient, Potential Toxicant. Cooperative Extension and U.C. Veterinary Medical Extension Conf., Sacramento. June 1-2.
57. Quinn N.W.T. 1995. Near real-time water quality management in the San Joaquin Basin. National Water Resources and Hydrometeorology Conference. Lawrence Livermore National Laboratory Pleasanton, CA. May 19.
58. Quinn N.W.T and W. Greer. 1995. Firebaugh Canal Water District - Upslope Downslope Issues. Biennial US Bureau of Reclamation Groundwater Conference, Denver, Colorado, Feb 2-4.
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PATENT APPLICATIONS

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